



16. (Currently Amended) A positioning system for use in a data acquisition system having at least one antenna to be passed over a surface to be surveyed, said positioning system comprising:

a plurality of base guides arranged side-by-side to one another, said base guides operable to be coupled to the surface; and

a support structure for supporting the at least one antenna, said support structure including at least one support guide for engaging at least one of said base guides, said at least one support guide being oriented to direct said support structure along said at least one of said base guides;

wherein said base guides are parallel to each other, and each of said at least one support guide of said support structure is fitted within a respective recess defined between an adjacent pair of said base guides, each of said at least one support guide being oriented so as to be parallel to said adjacent base guides.

- 17. (Previously Presented) The positioning system of claim 16, wherein said plurality of base guides are linear base guides.
- 18. (Previously Presented) The positioning system of claim 16, wherein said plurality of base guides are positioned on a supporting layer made of flexible material.
- 19. (Previously Presented) The positioning system of claim 18, wherein said supporting layer, said plurality of base guides, and said at least one support guide are arranged to define an upper surface on which said support structure travels.